METHOD AND APPARATUS FOR IMPROVING THE DYNAMIC RANGE OF LASER DETECTED ULTRASONIC IN ATTENUATIVE MATERIALS

ABSTRACT OF THE DISCLOSURE

A system for identifying ultrasonic displacements in a material under test utilizing a time-varying output pulse of a first laser beam. The system includes a seed laser light source for providing a laser beam, a modulating assembly in the path of propagation of the laser beam for time-varying of the laser beam, at least one optical isolation assembly placed in the path of propagation of the laser beam for preventing reflected laser light feedback into the seed laser light source, and at least one laser light amplification assembly placed in the path of propagation of the laser beam for amplifying the laser beam which passes the amplified time-varying output pulse of the laser beam.